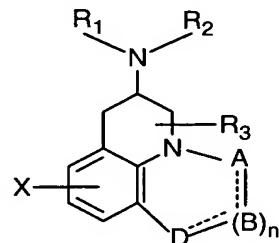


CLAIMS

WHAT IS CLAIMED IS:

1. A method of treating sexual disturbances in a human who is in need of such treatment which comprises administering a sexually therapeutically effective amount of a compound
5 of the formula (A)



where

R_1 , R_2 and R_3 are the same or different and are:

- H,
- 10 C_1-C_6 alkyl,
- C_3-C_5 alkenyl,
- C_3-C_5 alkynyl,
- C_3-C_5 cycloalkyl,
- C_4-C_{10} cycloalkyl,
- 15 phenyl substituted C_1-C_6 alkyl,
- $-NR_1R_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

- H,
- 20 C_1-C_6 alkyl,
- F, -Cl, -Br, -I,
- OH,
- C_1-C_6 alkoxy,
- cyano,
- 25 carboxamide,
- carboxyl,
- (C_1-C_6 alkoxy)carbonyl,

A is:

CH,

CH₂,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,
 CHCH₃,
 C=O,
 5 C=S,
 C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 10 C-NHCOOCH₃,
 C-NHCN,
 SO₂,
 N;

B is:

15 CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 N,
 20 NH,
 N-CH₃,

D is:

CH,
 CH₂,
 25 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 N,
 NH,
 30 N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

5 D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-
10 CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

15 D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

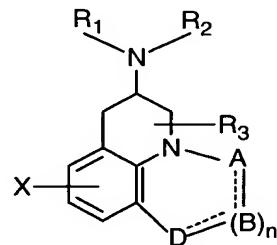
A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

20 2. A method of treating sexual disturbances according to claim 1 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

25 3. A method of inducing mating a non-human mammal which comprises administering a sexually mating amount of a compound of the formula (A)



where

R₁, R₂ and R₃ are the same or different and are:

-H,

5

$C_1\text{-}C_6$ alkyl,
 $C_3\text{-}C_5$ alkenyl,
 $C_3\text{-}C_5$ alkynyl,
 $C_3\text{-}C_5$ cycloalkyl,
 $C_4\text{-}C_{10}$ cycloalkyl,
phenyl substituted $C_1\text{-}C_6$ alkyl,
 $-\text{NR}_1\text{R}_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

10

-H,
 $C_1\text{-}C_6$ alkyl,
-F, -Cl, -Br, -I,
-OH,
 $C_1\text{-}C_6$ alkoxy,
15 cyano,
carboxamide,
carboxyl,
($C_1\text{-}C_6$ alkoxy)carbonyl,

A is:

20

CH,
 CH_2 ,
 $CH\text{-}(halogen)$ where halogen is -F, -Cl, -Br, -I,
 $CHCH_3$,

25

$C=O$,
 $C=S$,
 $C\text{-SCH}_3$,
 $C\text{=NH}$,

30

$C\text{-NH}_2$,
 $C\text{-NHCH}_3$,
 $C\text{-NHCOOCH}_3$,
 $C\text{-HCN}$,
 SO_2 ,
N;

B is:

CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 C=O,
 5 N,
 NH,
 N-CH₃,

D is:

CH,
 10 CH₂,
 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 N,
 15 NH,
 N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 20 C=S, C=NH, SO₂;
 then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,
 NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then
 25 D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-
 30 CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and
 B is CH, N; then



D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

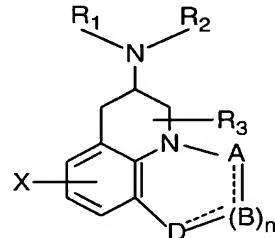
B is CH, N; then

5 D is CH, N; and pharmaceutically acceptable salts thereof.

4. A method of inducing mating according to claim 3 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

5. A method of treating a sexual deficiency state in a human who has epilepsy,

10 craniopharyngioma, hypogonadism or who has had a hysterectomy/oophorectomy, hysterectomy or oophorectomy which comprises administering a sexually therapeutically effective amount of a compound of the formula (A)



where

15 R₁, R₂ and R₃ are the same or different and are:

-H,

C₁-C₆ alkyl,

C₃-C₅ alkenyl,

C₃-C₅ alkynyl,

20 C₃-C₅ cycloalkyl,

C₄-C₁₀ cycloalkyl,

phenyl substituted C₁-C₆ alkyl,

-NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to produce pyrrolidiyl, piperidiny, morphoniny, 4-methyl piperaziny or imidazolyl;

25 X is:

-H,

C₁-C₆ alkyl,

-F, -Cl, -Br, -I,

-OH,

5

C₁-C₆ alkoxy,
cyano,
carboxamide,
carboxyl,
(C₁-C₆ alkoxy)carbonyl,

10

A is:
CHCH₃,

CH₂,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

15

C=NH₂,

C-NHCH₃,

C-NHCOOCH₃,

C-NHCN,

SO₂,

20

N;

B is:

CH₂,

CH,

CH-(halogen) where halogen is as defined above,

25

C=O,

N,

NH,

N-CH₃,

D is:

30

CH,

CH₂,

CH-(halogen) where halogen is as defined above,

C=O,

O,

N,
NH,
N-CH₃;

and n is 0 or 1, and where —— is a single or double bond, with the provisos:

5 (1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O, NH, N-CH₃;

10 (2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then
D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

15 C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

20 A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

25 B is CH, N; then

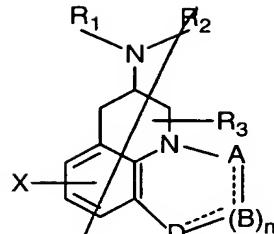
D is CH, N; and pharmaceutically acceptable salts thereof to the human.

6. A method of treating a sexual deficiency state according to claim 5 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

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S. J. M. a. 1
7. A method of increasing sexual desire, interest or performance in a human who is desirous thereof which comprises administering a sexually useful effective amount of a compound of the formula (A)

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where

R₁, R₂ and R₃ are the same or different and are:

-H,

5 C₁-C₆ alkyl,

C₃-C₅ alkenyl,

C₃-C₅ alkynyl,

C₃-C₅ cycloalkyl,

C₄-C₁₀ cycloalkyl,

10 phenyl substituted C₁-C₆ alkyl,

-NR₁R₂ where R₁ and R₂ are cyclized with the attached nitrogen atom to

produce pyrrolidiyl, piperidinyl, morphoninyl, 4-methyl piperazinyl or imidazolyl;

X is:

-H,

15 C₁-C₆ alkyl,

-F, -Cl, -Br, -I,

-OH,

C₁-C₆ alkoxy,

cyno,

20 carboxamide,

carboxyl,

(C₁-C₆ alkoxy)carbonyl,

A is:

CH,

25 CH₂,

CH-(halogen) where halogen is -F, -Cl, -Br, -I,

CHCH₃,

C=O,

C=S,

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5

C-SCH₃,
C=NH,
C-NH₂,
C-NHCH₃,
C-NHCOOCH₃,
C-NHCN,
SO₂,
N;

10

B is:

CH₂,
CH,
CH-(halogen) where halogen is as defined above,

15

C=O,
N,
NH,
N-CH₃,

D is:

CH,
CH₂,

20

CH-(halogen) where halogen is as defined above,

C=O,
O,
N,
NH,

25

N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

C=S, C=NH, SO₂;

30

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,

NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

5 CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

15 8. A method of increasing sexual desire, interest or performance in a human who is desirous thereof according to claim 7 where the compound of formula (A) is (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione.

9. (5R)-5-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione and

20 pharmaceutically acceptable salts thereof.

10. A compound according to claim 9 which is (5R)-5-(Methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinoline-2(1H)-thione malate.

25